On page 90, line 25, delete "cyclic" and substitute therefor --periodic--.

On page 91, line 6, delete "cyclic" and substitute thereof --periodic--.

In the Claims:

Please revised the claims as follows:

1. (Amended) A functional material comprising:

a [cyclic] periodic structure having a [cyclicity] periodicity with a unit cycle on the order of a wavelength of an electromagnetic wave; and

means for disturbing the [cyclicity] periodicity of said [cyclic] periodic structure, said means being provided in at least one portion of said [cyclic] periodic structure;

wherein said means for disturbing the [cyclicity] periodicity of said [cyclic] periodic structure is controllable from external.

2. (Amended) A functional material according to claim 1, wherein a kinetic function or a change in refractive index is given to said means for disturbing the [cyclicity] periodicity by controlling, from external, said means for disturbing the [cyclicity] periodicity.

3. (Amended) A functional material according to claim 1, wherein a first electromagnetic wave incident on said [cyclic] periodic structure is converted into a second electromagnetic wave, at least one attribute of which is different from that of said first electromagnetic wave, by controlling, from external, said means for disturbing the [cyclicity] periodicity.

5. (Amended) A functional material according to claim 1, wherein said [cyclic] periodic structure is a one-dimensional, two-dimensional, or three-dimensional [cyclic] periodic structure.

6. (Amended) A functional material according to claim 1, wherein the unit cycle of said [cyclic] periodic structure is in a range of 1/50 time to 50 times of a wavelength of an electromagnetic wave.

7. (Amended) A functional material according to claim 1, wherein the unit cycle of said [cyclic] periodic structure is in a range of 1/5 time to 5 times of a wavelength of an electromagnetic wave.

8. (Amended) A functional material according to claim 1, wherein said [cyclic] periodic structure is formed by stacking, distributing, or building-up elements identical to each other, and said means for disturbing the [cyclicity] periodicity is composed of an element different from said elements constituting said [cyclic] periodic structure.

9. (Amended) A functional material according to claim 1, wherein said [cyclic] periodic structure is formed by stacking, distributing, or building-up two kinds or more materials, and said means for disturbing the [cyclicity] periodicity is composed of a material different from said materials constituting said periodic structure.

10. (Amended) A functional material according to claim 1, wherein said [cyclic] periodic structure is formed by stacking, distributing, or building-up two kinds or

more materials, and said means for disturbing the [cyclicity] periodicity is composed of a material which exhibits a kinetic function when receiving a signal from external.

11. (Amended) A functional material according to claim 10, wherein said two kinds or more materials constituting said [cyclic] periodic structure are dielectric substances.

37. (Amended) A functional material according to claim 36, wherein said material exhibiting a kinetic function is different in refractive index from said materials constituting said [cyclic] periodic structure.

38. (Amended) A functional material according to claim 36, wherein said material exhibiting a kinetic function is identical in refractive index to said materials constituting said [cyclic] periodic structure.

39. (Amended) A functional material according to claim 10, wherein letting A be a thin film made from a conductive material, B be a thin film made from a piezoelectric material or a material having an electro-optic effect different in refractive index from A, C be a thin film made from a paraelectric substance different in refractive index from each of A and B, said [cyclic] periodic structure includes a portion in which said thin films A, B, and C are stacked in the order of ABAC.

40. (Amended) A functional material according to claim 10, wherein said [cyclic] periodic structure includes a portion in which thin films made from a conductive material are [cyclically] periodically stacked on piezoelectric materials or materials

having an electro-optic effect different in refractive index from said thin films made from a conductive material.

43. (Amended) A functional material according to claim 10, wherein said functional materials are two-dimensionally, [cyclically] periodically formed on a base in such a manner as to be separated from each other, to form an artificial skin, and part of said functional materials are deformed on the basis of a signal supplied from external.

44. (Amended) A functional material according to claim 1, wherein said [cyclic] periodic structure is formed by stacking, distributing, or building-up two kinds or more elements, and said means for disturbing the [cyclicity] periodicity includes a material whose refractive index is changed on the basis of a signal supplied from external.

52. (Amended) A functional material according to claim 1, wherein said means for disturbing the [cyclicity] periodicity is composed of a material deformed by light irradiation or electric field application.

53. (Amended) A functional material according to claim 1, wherein said [cyclic] periodic structure is composed of a group of dots formed on a base by printing.

54. (Amended) A functional device comprising:

a [cyclic] periodic structure having a [cyclicity] periodicity with a unit cycle on the order of a wavelength of an electromagnetic wave; and

means for disturbing the periodicity of said [cyclic] periodic structure, said means being provided in at least one portion of said [cyclic] periodic structure;

wherein said means for disturbing the [cyclicity] periodicity of said [cyclic] periodic structure is controllable from external.

55. (Amended) A functional device according to claim 54, wherein a pair of said functional devices, each of which has said [cyclic] periodic structure formed by a group of projections [cyclically] periodically disposed on a base, are movably opposed with said group of projections directed inwardly.

56. (Amended) A functional device according to claim 54, wherein said [cyclic] periodic structure is formed by a group of piezoelectric elements [cyclically] periodically disposed on a base, and those selected from said piezoelectric elements are warped when receiving a signal from external.

57. (Amended) A functional device according to claim 54, wherein said [cyclic] periodic structure is formed by stacking, distributing, or building-up two kinds or more materials, and said means for distributing the [cyclicity] periodicity includes a material which exhibits a kinetic function when receiving a signal from external.

58. (Amended) A functional device according to claim 57, wherein said [cyclic] periodic structure has a three-dimensional shape having six planes including a pair of opposed planes and electrodes for applying an electric field to said material exhibiting a kinetic function are provided on said pair of planes; and

when light having a broad wavelength distribution is made incident on said [cyclic] periodic structure in parallel to said pair of planes provided with said

electrodes, the wavelength of the light passing through said [cyclic] periodic structure is changed by applying an electric field to said material exhibiting a kinetic function by using said electrodes.

59. (Amended) A functional material comprising:

a [cyclic] periodic structure having a [cyclicity] periodicity with a unit cycle on the order of a wavelength of a sound wave.

62. (Amended) A functional material according to claim 59, wherein said [cyclic] periodic structure is a one-dimensional, two-dimensional, or three-dimensional [cyclic] periodic structure.

63. (Amended) A functional material according to claim 59, wherein the unit cycle of said [cyclic] periodic structure is in a range of 1/50 time to 50 times of a wavelength of a sound wave.

64. (Amended) A functional material according to claim 59, wherein the unit cycle of said [cyclic] periodic structure is in a range of 1/5 time to 5 times of a wavelength of a sound wave.

66. (Amended) A functional material according to claim 59, wherein said [cyclic] periodic structure is formed by stacking, distributing, or building-up elements identical to each other.

67. (Amended) A functional material according to claim 59, wherein said [cyclic] periodic structure is composed of a group of dots formed on a base by printing.

68. (Amended) A functional material according to claim 59, wherein said [cyclic] periodic structure is composed of a thread-like material.

69. (Amended) A functional material according to claim 59, wherein said [cyclic] periodic structure is composed of Peltier elements [cyclic] periodically disposed on a base.

70. (Amended) A functional material comprising:

a [cyclic] periodic structure having a [cycliity] periodicity with a unit cycle on the order of a wavelength of a sound wave; and

means for disturbing the [cyclicity] periodicity is provided in at least one portion of said [cyclic] periodic structure.

73. (Amended) A functional material according to claim 70, wherein said [cyclic] periodic structure is a one-dimensional, two-dimensional, or three-dimensional [cyclic] periodic structure.

74. (Amended) A functional material according to claim 70, wherein the unit cycle of said [cyclic] periodic structure is in a range of 1/50 time to 50 times of a wavelength of a sound wave.

75. (Amended) A functional material according to claim 70, wherein the unit cycle of said [cyclic]periodic structure is in a range of 1/5 time to 5 times of a wavelength of a sound wave.

77. (Amended) A functional material according to claim 70, wherein said [cyclic] periodic structure is formed by stacking, distributing, or building-up elements identical to each other.

78. (Amended) A functional material according to claim 70, wherein said[cyclic] periodic structure is composed of a group of dots formed on a base by printing, and said means for disturbing the [cyclicity] periodicity is composed of a group of dots formed on said base by printing, said material for forming said dots constituting said means being different from that for forming said dots constituting said [cyclic] periodic structure.

79. (Amended) A functional material according to claim 70, wherein said [cyclic] periodic structure is composed of a thread-like material, and said means for disturbing the [cyclicity] periodicity is composed of a thread-like material different from said material constituting said [cyclic] periodic structure.

80. (Amended) A functional material comprising:

a [cyclic] periodic structure having a [cyclicity] periodicity with a unit cycle on the order of a wavelength of a sound wave; and

means for disturbing the [cyclicity]periodicity is provided in at least one portion of said [cyclic] periodic structure;

wherein said means for disturbing the [cyclicity] periodicity is controllable from external.

81. (Amended) A functional material according to claim 80, wherein the density of a gas in the vicinity of said means for distributing the [cyclicity] periodicity is changed by controlling said means for distributing the [cyclicity] periodicity from external.

82. (Amended) A functional material according to claim 80, wherein a first sound wave incident on said [cyclic] periodic structure is changed from a second sound wave, at least one attribute of which is different from that of said first sound wave, by controlling said means for disturbing the [cyclicity] periodicity from external.

84. (Amended) A functional material according to claim 80, wherein said [cyclic] periodic structure is a one-dimensional, two-dimensional, or three-dimensional [cyclic] periodic structure.

85. (Amended) A functional material according to claim 80, wherein the unit cycle of said [cyclic] periodic structure is in a range of 1/50 time to 50 times of a wavelength of a sound wave.

86. (Amended) A functional material according to claim 80, wherein the unit cycle of said [cyclic] periodic structure is in a range of 1/5 time to 5 times of a wavelength of a sound wave.

87. (Amended) A functional material according to claim 80, wherein said [cyclic] periodic structure is formed by stacking, distributing, or building-up elements identical to each other.

88. (Amended) A functional material comprising:

a [cyclic] periodic structure containing a material made luminous due to inter-band transition;

wherein excitation light having such a wavelength as to allow said light to substantially pass through said [cyclic] periodic structure is made incident on said [cyclic] periodic structure from external, so that said luminous material is irradiated with said excitation light to allow electrons of said luminous material to be changed from a ground state to an excitation state; and

said [cyclic] periodic structure has a photonic band gap for said emission wavelength allowing emission transition of said luminous material.

Please add the following claims:

89. (New) A wavelength selection light emitting material allowing time setting comprising:

a luminous material made luminous due to inter-band transition, said luminous material being contained in a periodic structure having a periodicity with a unit cycle on the order of a wavelength of excitation light or emission wavelength;

wherein when said wavelength selection light emission material is irradiated from external with excitation light, said luminous material is excited to cause electron transition to an excitation state, and said luminous material is made luminous on a basis of a signal.

90. (New) A wavelength selection light emission material allowing time setting according to claim 89, wherein said luminous material causes the electron transition from a ground state to the excitation state by irradiating said luminous material with said excitation light which substantially passes through said periodic structure;

said periodic structure has a photonic band gap for the emission wavelength allowing emission transmission of said luminous material, to thereby keep a state in which the emission transition of said luminous material is forbidden; and